Connecticut Department of Emergency Management and Homeland Security

THE DEMHS ADVISOR

DEMHS, 25 Sigourney Street, Hartford, CT 06106
860-256-0800 www.ct.gov/demhs

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WHAT'S NEW:

To report suspicious activity related to homeland security please call the **DEMHS Anti-Terrorism Task Force** at 203-777-6311 or 1-866-HLS-TIPS (866-457-8477)

UPCOMING EXERCISES:

Hurricane Exercise
August 16, 2005

Millstone Un-evaluated Plume Exercise
September 1, 2005

Commissioner Notes

By James M. Thomas

We hope you enjoyed last month's DEMHS Advisor emailed to our many local and state public safety partners. We are hoping to reach as many individuals as possible. If you know of anyone that might be interested in receiving our newsletter please have them complete the "***e-alert"*** instructions on our website. As mentioned before we plan on using this newsletter as an important tool in sharing what is happening within our new agency and the people we work closely with every day. This month's DEMHS Advisor contains a report of the Interoperable Communications Workgroup, one of subcommittees of the DEMHS Coordinating Council. This group has worked very hard over the last few years and I'd like to take this opportunity to thank them for all their efforts and to share with you their accomplishments. While all the members contributed to the report in this issue a special thanks goes to Gordon Shand of the Department of Public Health who summarized what the group has been up to over the last three years.

Interoperable Communications Workgroup

The Interoperable Communications Workgroup is an ad hoc communications interoperability working group that was organized in May 2002 by the Governor and led by the Office of Policy and Management (OPM) to address the immediate needs of the first responder community in the State.

Members of the Committee represent: the CT Departments of Corrections, Emergency Management and Homeland Security, Information Technology, Motor Vehicles, Office of Policy and Management, Public Health, Public Safety, Transportation, Municipal Organizations (Hamden, PD; Manchester 8th District Fire / CREPC; CMED New Haven; Westport/SWRPA; West Hartford/CREPC; New Haven Fire Dispatch; Madison; Glastonbury; Quinebaug Valley Emergency Communications; New Haven/Urban Area Security Initiative), Connecticut Council of Municipalities, CT Police Chiefs Association, CT Fire Chiefs Association, CT-TF-1 Urban Search and Rescue, and the US Coast Guard.

For more information on the Interoperable Communications Committee and other committees of the DEMHS Coordinating Council including meeting minutes and members please visit our website and dick on the ***Coordinating Council*** *link. Over the next several months we will be introducing members of the DEMHS Coordinating Council in this newsletter.*

PUBLIC SAFETY TELECOMMUNICATIONS ISSUES IN CONNECTICUT & PROGRESS MADE IN ATTAINING INTEROPERABILITY - MAY, 2005

By The Interoperability Communications Workgroup

BACKGROUND

Numerous large scale emergency events, extending out over many years, have demonstrated repeatedly the inability of public safety service responders to communicate effectively at large scale emergencies due to incompatible voice communication systems. These events include the 1982, Air Florida flight 90 Crash in Washington D.C., the bombing of the Federal Building in Oklahoma City in 1995, the TWA Flight 800 crash over Long Island Sound in 1996 and the September 11th, 2001 terrorist destruction of the World Trade Center Twin Towers in New York City. Each one of these events caused a re-examination of emergency telecommunications interoperability issues and resulted in some movement towards resolving specific interoperability problems. However, the inability to effectively communicate continues to be a chronic problem nationally and has hindered, sometimes crippled, the response to an untold number of emergency events of varying types and sizes

Interoperable radio communications are necessary for the coordination of all available resources, to ensure the safety and protection of both the emergency personnel and the public they serve.

For many years, police personnel in most Connecticut communities have not been able to speak directly to fire fighters or to responding emergency medical services personnel and vice-versa. Also in many communities, public safety personnel have not had the capability to communicate easily with the police, fire and EMS services in neighboring communities, nor with the various State and Federal authorities with whom communication is also frequently necessary. Public safety dispatchers have done their best over the years trying to "patch" disparate communications systems together using basic telephone and radio technologies when circumstances have necessitated it.

Interoperable radio communications are necessary for the coordination of all available resources, to ensure the safety and protection of both the emergency personnel and the public they serve.

CURRENT STATUS

In Connecticut, all police departments, fire departments, emergency medical service providers, highway departments and emergency management agencies utilize two-way radio voice communications for the dispatch of routine and emergency calls to their field personnel. Some agencies have also integrated data communications into their operations to compliment their voice radio communication systems. Although everyone uses two-way radio voice communications, different radio frequency bands are used that are broadly spaced and basically incompatible. These radio bands are generally referred to as Low Band (30-50 MHz.), High Band (135-174 MHz.), Ultra High Frequency Band (400-512 MHz.) and the 800 MHz. Band. Also, there are numerous modes of transmission utilized such as analog, digital, wide band, narrow-band, encrypted, trunked, spread spectrum, etc. As a result, many of these two-way radio "voice" communication systems cannot communicate with each other. Even in cases where the same frequency band is used and the same "mode" of transmission is used, there may still be a problem because proprietary vendor architecture prevents the two different system users from communicating.

One approach that the public safety community has recently embraced to achieve interoperability, and use as an adjunct to their existing two-way radio systems, is to purchase portable wireless telecommunication devices, such as those offered by Nextel, Verizon and other wireless carriers. These services are widely marketed to and used by the business community and the general public.

Portable wireless communication devices such have been used to achieve a certain level of interoperability, but with limited success. These alternative systems do not have the redundancy, coverage area, and hardened system reliability that one would expect to see in a public safety communication system. Use of alternative systems such as these has resulted in important communications not being heard by other public safety personnel responding to the same incident or by the public safety telecommunicator overseeing communications for the incident. Also, all communications conducted on this "adjunct" system presently are not being tape recorded.

CT Department of Public Safety – The CT DPS operates and maintains a modern 800 MHz. trunked, digital telecommunications system used primarily by the Connecticut State Police. This statewide, trunked radio system, supported by a statewide digital microwave system, serves as the primary communication link between the approximately 1100 state troopers, the 12 troop barracks and the DPS Headquarters in Middletown where the Communications Command Center is located. The CT DPS Communications Command Center also serves as the coordination and control point for the statewide 800 MHz. ICALL/ITAC network which will be explained in detail, later in this article. Enhancements have been made incrementally to the CT DPS system so that it can be cross-patched to some of the larger municipal police department radio systems located close to the state's highway corridors.

Municipal Police Departments - Each municipal police department has its own two-way radio system using one of the previously described voice technologies. These radio communication systems are frequently incompatible with neighboring police department two-way radio voice communication systems. Many police departments have joined together over the years to participate in "regional" radio networks that were initially designed to provide "car to car" interoperability. These systems were purchased with federal funds in the early 1970's. Most of these "regional" voice radio systems have deteriorated over time due to neglect and lack of funding. However, with the recent focus on terrorism prevention, attempts have been made to resurrect and use the regional networks. The use of mobile data communications system has also proven to be very popular with the law enforcement community in certain areas of Connecticut.

Fire Service – Similar to municipal police departments, the suburban/urban fire departments frequently have their own separate two-way radio voice communication systems. These separate radio systems are often not compatible with the local police, EMS or highway department systems. Interoperability between public safety services in many municipalities can only be achieved through the intervention of a public safety dispatcher/telecommunicator at the emergency communications center. Some municipal fire departments utilize a common area-wide radio frequency channel to coordinate mutual-aid response to or with neighboring communities.

Statewide, there are several low band radio channels that are used for base-to-base and mobile fire coordination purposes. This statewide fire coordination is not used by all jurisdictions

The less populated towns in Connecticut have joined together and are provided fire communication services from one of the regional emergency communication centers in the state. Because each of these regional emergency communication centers uses common frequencies for their member towns, a certain level of interoperability is inherent in their structure.

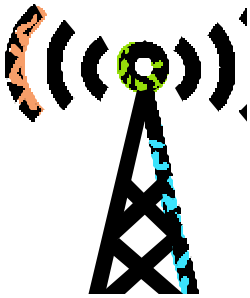
Emergency Medical Services – The majority of the EMS provider organizations are dispatched over their own two-way radio voice communications system. Also like the fire service, many EMS providers in the less populated towns are dispatched by the regional emergency communication centers. Common dispatch frequencies used by these regional emergency communication centers provide EMS services with the ability to speak with neighboring EMS services as well as with surrounding fire departments.

Interoperability within the EMS community is addressed by state EMS regulations that require all ambulances to be equipped with a common UHF "MED" radio. This network allows all EMS providers to communicate with 35 emergency medical facilities in Connecticut. Ambulances are "patched" (using the UHF MED radio), to the hospitals for medical control instructions and to notify the receiving hospital of patient condition and estimated time of arrival. There are 13 CMEDS (Coordinated Medical Emergency Dispatch) centers that provide this service in Connecticut.

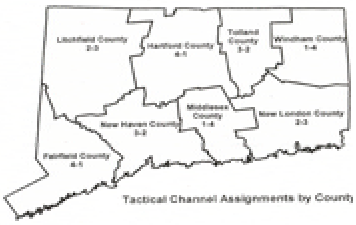
PROGRESS TOWARDS ACHIEVING INTEROPERABILITY IN CONNECTICUT

In May 2002, a public safety interoperable communications working group was organized by the Governor and oversight responsibility was charged to the Office of Policy and Management (OPM). The working group was made up of state and local police, fire, emergency medical, emergency management, environmental, transportation, emergency telecommunications and information technology representatives. This interoperable communications working group has been formally recognized by the Emergency Management and Homeland Security Coordinating Council (EMHSCC) as the Connecticut Public Safety Communications Interoperability Committee (CPSCIC) and has focused its attention on the following:

- Interoperability at the incident/unified command level
- Interoperability at the functional level
- Development of training, equipment, and operational standards
- Infrastructure improvements



ICALL/ITAC System - Interoperability at the incident command and control level was deemed to be the first priority. New technology and existing capabilities were researched. The working group determined that the quickest, least expensive course to pursue would be to activate and expand upon an existing component of the Department of Public Safety's 800 MHz. radio network. Per FCC mandate, the DPS was required to implement an analog component of its statewide 800 MHz. radio network, commonly referred to as I-CALL/ITAC. I-CALL/ITAC standards were established by the FCC and were intended to be implemented in all public safety 800 MHz. systems, nationwide.



With Connecticut's I-CALL/ITAC infrastructure already in place statewide, all that needed to be done was to procure radios, train potential users of the system and distribute radios to those same people. Specifications were developed by an equipment subcommittee, approved, and put out to competitive bid. The I-CALL/ITAC radios were purchased by the State of Connecticut.

Next, the fire chiefs, municipal police chiefs, directors of EMS organizations and local emergency management directors were trained and provided an I-CALL/ITAC portable radio and charger. To make even greater use of the I-CALL/ITAC system, all primary and secondary 9-1-1 PSAPs (public safety answering points) in Connecticut were given an 800 MHz. I-CALL/ITAC control station. Additionally, the emergency operations centers of the municipalities within the Millstone nuclear power plant EPZ (emergency protective zone) or those serving as a host community for a Millstone event have received a control station and training.

The State of Connecticut has purchased thirty-four, mass decontamination trailers. Each trailer is equipped with a base station/mobile repeater and six portable radios that operate on the ICALL/ITAC system. These trailers are distributed throughout the state based on geography, population and proximity to a primary health care facility.

As radio coverage deficiencies are identified, improvements will be made to the statewide ICALL/ITAC system.

NAME		MOBILE TX	BASE TX
ICALL		821.0125 MHz.	866.0125 MHz.
ICALL	Talk-Around	866.0125 MHz.	866.0125 MHz.
ITAC – 1		821.5125 MHz.	866.5125 MHz.
ITAC – 1	Talk-Around	866.5125 MHz.	866.5125 MHz.
ITAC – 2		822.0125 MHz.	867.0125 MHz.
ITAC – 2	Talk-Around	867.0125 MHz.	867.0125 MHz.
ITAC – 3		822.5125 MHz.	867.5125 MHz.
ITAC – 3	Talk-Around	867.5125 MHz.	867.5125 MHz.
ITAC – 4		823.0125 MHz.	868.0125 MHz.
ITAC – 4	Talk-Around	868.0125 MHz.	868.0125 MHz.

The CTCSS (Continuous Tone Coded Squelch System) tone of 156.7 Hz. (5A) will be used in conjunction with these frequencies. Use of these frequencies with any other CTCSS tone is prohibited.

STATE TACTICAL ON SCENE CHANNEL SYSTEM (STOCS)

Although the committee has implemented and promoted the 800 MHz. ICALL/ITAC system, that system was primarily established to facilitate communications interoperability at the command and control level of an emergency, not for use by line personnel who may also have a critical need for interoperability. A sub-committee has been formed to study the feasibility of using select, low power, narrow-band, frequencies recently approved by the FCC for use by public safety personnel operating at the scene of an emergency. The FCC has made available, select frequencies at the VHF, UHF and 800 MHz. bands for this purpose. Connecticut has applied for and received a statewide license for each of the below referenced frequencies.

The subcommittee has also researched the feasibility of deploying multi-band, low power, transportable repeaters that would be dispatched to the scene of larger scale emergencies. When activated, the transportable repeaters would allow emergency front line personnel to seamlessly communicate with each other, regardless of the type or frequency band of the radio they were using. Several prototypes are in the process of being tested. The transportable repeaters would utilize the newly acquired low power statewide frequencies.

The purpose of the STOCS System is to provide an Interoperable Radio System for on scene tactical use. It is intended to allow individuals and groups of responders to communicate when working at the scene of an incident, using their existing portable radio equipment

The STOCS system consists of three (3) VHF frequencies, three (3) UHF frequencies and five (5) 800MHz. frequencies combined into five (5) interoperability channel groups as follows:

CHANNEL ID	VHF	UHF	800 MHz	Operational Area By County
CTGP-1	154.4525 MHz.	458.4625 MHz.	855.9875 MHz.	All Counties.
CTGP-2	158.7375 MHz.	458.7125 MHz.	855.7125 MHz.	ALL Counties except Fairfield.
CTGP-3	159.4725 MHz.	458.8625 MHz.	858.4625 MHz.	ALL counties except Fairfield and New London.
CTGP-4	158.7375 MHz.	458.7125 MHz.	860.2375 MHz.	ONLY in FAIRFIELD COUNTY.
CTGP-5	159.4725 MHz.	458.8625 MHz.	856.2625 MHz.	ONLY in FAIRFIELD and NEW LONDON counties.

To insure consistency through out the State, the standard Channel Identification CTGP 1 - 5 is the only authorized identification for these channels. The FCC License for all frequencies is held by the State of Connecticut Department of Emergency Management and Homeland Security for Tactical Radio Interoperability by Local, Fire, Law Enforcement, Emergency Medical Service, Health Departments, Public Works Departments and Emergency Management as well as appropriate State and Federal Agencies. These frequencies may be used only in Portable Radios with a maximum output power of 3-watts.

EDUCATION AND TRAINING

The CPSCIC recognizes that for there to be any significant improvements in emergency telecommunications interoperability, a program to educate everyone in the public safety arena and train all of the personnel that will be using the equipment is paramount. As public safety advances towards making technological improvements to help achieve interoperability we will need to be vigilant in the areas of system maintenance and promoting familiarity in the proper use of the system.

Training videos on the use of the use of the ICALL/ITAC system have been distributed to every municipal emergency management director in the State. Also, a PowerPoint training presentation is available on the Department of Emergency Management and Homeland Security website.

OPERATIONAL STANDARDS

The CPSCIC has been charged with reviewing and approving all communications and technology purchases made by the state, regional and local authorities using Federal Department of Homeland Security funds. The review and approval process will ensure that all identified standards and interoperability requirements will be followed.

CURRENT INFO

Currently the Interoperable Communications Committee is working on a federally required tactical operations plan for the southwestern region of the State. The workgroup is working in partnership with the City of Norwalk and other local representatives. For more information contact Mike Varney, chairman of the committee at 860-622-2462 or e-mail your comments and questions to him at Michael.Varney@po.state.ct.us.

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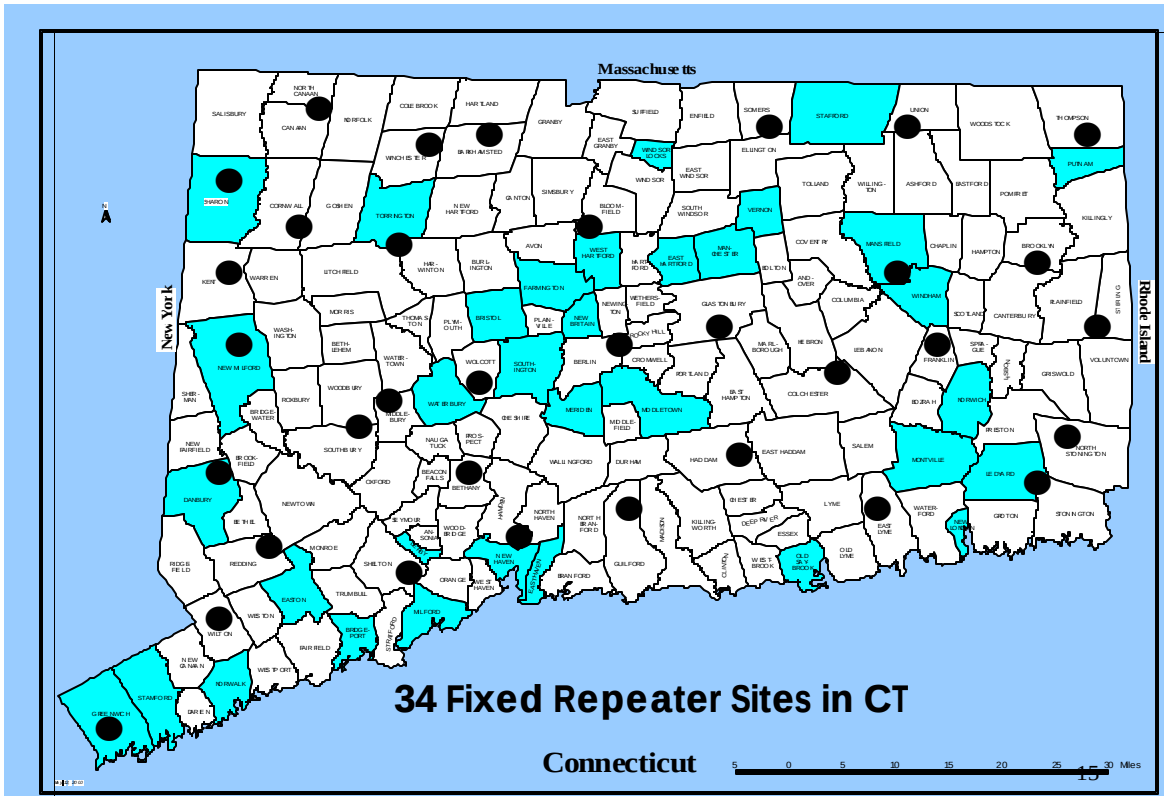

Town Notes:
Manchester, CT

On Wednesday, June 29, 2005 lightning hit the Manchester Public Safety Complex radio transmission tower. The town lost their primary fire dispatch for a couple of hours. On Friday, July 1st radio repair technicians discovered hidden damage to the system that had to be repaired and components replaced. This left Manchester with a degraded emergency fire radio system.

Manchester's Emergency Management Coordinator, Martin Sullivan refers to this event as the textbook "training" scenario: late Friday afternoon, holiday weekend, major public functions planned throughout the area all weekend long, loss of primary radio communication, what do you do?

You do exactly what Marty did:
3:00 PM
- Marty called Thomas Gavaghan, his CT Department of Emergency Management and Homeland Security's Area 3 Coordinator.
- Tom called DEMHS's Dana Conover and Robert DiBella who initiated the I-CALL/I-TAC system since each of the 35 decontamination trailers contains an I-CALL/I-TAC radio repeater, control station and six portables.
- Tolland County Dispatch determined that the Decon/Radio Trailer located at UCONN in Storrs was the appropriate asset to use for this event. Members of the UCONN Fire Department delivered the Trailer and set up the portable repeater and 65 foot high tower at the Manchester Town Hall.
- The Connecticut Department of Public Safety (DPS) provided additional portable radios and a tactical frequency to use for the weekend.

5:30 PM
- A duplicate, free standing municipal public safety radio system was up and running.

"All town officials were pleased with how this all played out. None of this would have been possible three years ago. The equipment was ready to go, this is Homeland Security dollars working for our citizens" said Marty Sullivan. "In fact with the radio tower set up on the decon trailer and actually having decontamination capabilities in place we were ready to handle all sorts of emergencies."

According to Marty everybody pulled together and was a tremendous help. "Those three guys (Tom, Dana and Bobby) jumped through hoops late on a Friday afternoon to support the town of Manchester."

DEMHS Training Calendar

For full course descriptions, prerequisites, times and location visit our website **www.ct.gov/demhs** and click on ***Check the Calendar***. For more information or to register contact our State Training Officer, **Paul Benyeda** at 860-566-8517 or email Paul at **paul.benyeda@po.state.ct.us**.

August

August 8
WMD Radiological/Nuclear Awareness course

August 9
Radiological/Nuclear Responder Operation

August 9
WMD Crime Scene Management for Emergency Responders

August 10
WMD HazMat Evidence Collection

September

To be announced. Please continue to visit our website for up-to-date training opportunities.